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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,578	03/28/2001	Ahmed A. Busnaina	837BUS-X	3505
<div>7590 James Marc Leas 37 Butler Drive S. Burlington, VT 05403</div>			<div>EXAMINER MARKOFF, ALEXANDER</div>	
			<div>ART UNIT 1792</div>	<div>PAPER NUMBER</div>
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/819,578

Applicant(s)

BUSNAINA, AHMED A.

Examiner

Alexander Markoff

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 22-23, 59-78, 80-81 and 99-112 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 22-23, 59-78, 80-81 and 99-112 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/3508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-18, 22-23, 59-78, 80, 81 and 99-112 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicants amended the claims to recite the specific orientation of the side of the substrate, which has a metallic film thereon. Such is not supported by the original disclosure.

It is noted that claim 23 still recites "a conductive film".

This claim and the dependent require the specific orientation of the side of the substrate, which has a conductive film thereon. Such is not supported by the original disclosure.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 100 and 102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite because the term "said conductive film" in these claims lack proper antecedent basis.

Response to Amendment

5. The applicants amended the claims to recite the specific orientation of the side of the substrate, which has a metallic film thereon. Such is not supported by the parent application. Thereby the prior art is applied taking in consideration that none of the claims has priority of the parent application for the entire scope.

Further, claim 23 and the dependent claims still recite substrates comprising conductive films. Such is not supported by the parent application. Thereby the prior art is applied taking in consideration that none of the claims has priority of the parent application for the entire scope.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-18, 22-23, 59-78, 80--81 and 99-112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanno et al (US Patent No 6,199,567) in view of WO 01/08200, Matsushita et al (US Patent No 5,071,776) and JP 4-87675.

Kanno et al teach that it was known to clean wafer with conductive metal films with liquids and megasonic as claimed. See entire document, especially Figures 7, 9-11 and the related description. Kanno et al teaches the claimed frequencies. Kanno et al do not teach the use of the apparatus as claimed.

However, the use of apparatuses with overflow and transducers parallel to both sides of the wafer for cleaning the wafers were known in the art as evidenced by WO 01/08200 and Matsushita et al.

Moreover, Matsushita et al teach such apparatuses as an alternative to the apparatuses with the transducers at the bottom of the tank, which are disclosed by Kanno et al.

JP 4-87675 teaches apparatuses with overflow as alternative to the apparatus without overflow.

It would have been obvious to an ordinary artisan at the time the invention was made to use the apparatuses having construction disclosed by WO 01/08200 and Matsushita et al in the method of Kanno et al with reasonable expectation of adequate results in order to obtain benefits of the apparatuses.

It is noted that it is not clear from Matsushita et al whether or not the overflow of the apparatus presented on Figures 11a-b and 12a-c is over two sides. However, it reasonably believed that the same overflow as shown on Figures 2 and 6 is referenced by the document. Alternatively, it would have been obvious to provide overflow on two sides, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and because JP 4-87675 teaches that such apparatuses were known in the art.

As to the embodiments of Figures 8 and 9: Matsushita et al do not specifically show overflow on these figures because these figures show a cut away views of the

apparatuses. However, Matsushita et al specifically teach overflow for other embodiments. It is reasonably believed that the embodiments shown on Figures 8 and 9 are also provided with overflow to provide functioning recited by Matsushita for other embodiments. In alternative it would have been obvious to an ordinary artisan to provide the overflow into the apparatuses shown on Figures 8 and 9 to enable continuous flow required by Matsushita et al.

Again, it is reasonably believed that the same overflow as shown on Figures 2 and 6 is present in the apparatuses of Figures 8 and 9. Alternatively, it would have been obvious to provide overflow on two sides, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and because JP 4-87675 teaches that such apparatuses were known in the art.

It is noted that WO 01/08200 does not teach the overflow at two sides.
See entire document, especially Figure 1 and the related description.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide overflow on two sides, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 and because JP 4-87675 teaches that such apparatuses were known in the art.

Response to Arguments

10. Applicant's arguments filed 3/3/09 have been fully considered but they are not persuasive.

The applicants amended the claims and argue that the rejection made under 35 USC 112(1) is not proper because the parent application (SN 60/104,131) recites metallic films and shows a wafer parallel to the transducer.

This is not persuasive because the claims require the specific orientation of the side with a metallic film.

Such is not supported by the disclosure of the parent application (SN 60/104,131).

Thereby the scope of the instant claims is not supported by the disclosure and the disclosure of the parent application.

The applicants argue that WO 01/08200 should be removed as a reference.

The examiner disagrees for the reasons provided above. The disclosure of the parent application (SN 60/104,131) does not support the claimed limitations. Thereby the prior art is applied taking in consideration that none of the claims has priority of the parent application for the entire scope.

The applicants again argue that it would not have been obvious to provide second overflow in WO 01/08200.

This is not persuasive because it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

It is noted that the applicants allege that having two adjustable overflows would provide a maintenance headache and that further invention would be needed to provide simultaneous adjustment.

This is not persuasive because the applicants have not supported their allegation by any technical reasoning. Whether or not the edge of the prior art is adjustable, mere duplication of the essential working parts of a device involves only routine skill in the art.

The applicants again argue that Matsushita et al do not teach overflow for the embodiments presented on Figures 8 and 9.

Such is not persuasive:

First, it is again noted that the document teaches overflow for the embodiments of Figures 11a-b and 12a-c, which is also readable on the most of the claims.

Second, it is again noted that the embodiments of figures 8 and 9 are addressed the rejection.

The applicants amended the claims and allege that Matsushita teaches away from single wafer processing.

This is not persuasive because the claims are still written using language "comprising". Thereby, the claims do not exclude "providing" additional substrates.

It is noted that the claims are not limited for the steps of flowing and applying energy while only a single substrate is present in the container. The claims are not limited to single substrate processing.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 571-272-1304. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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